

Request for Economic Stimulus Funds

Concept Proposal

Submitters (Name of Workgroup & Chair/Co-Chairs): **Energy and Sustainability – (Dr. Doug Whitlock and Dr. Jim Tracy)**

Project Title: **Mesonet and Wind Prediction for Wind Energy Producers**

Project Partners (Known or Anticipated): **NOAA, all public universities, TVA, TV stations, Area Development Districts, NWS, and WKU Climate Center**

Project Background & Purpose (Justification for Project): The Kentucky Climate Center of the Applied Research and Technology Program of Distinction has been deploying real-time weather stations throughout the Commonwealth to form a weather monitoring network (i.e., Mesonet). The goal is to deploy 100 of these stations at strategic locations throughout the state that meet or exceed the National Oceanic and Atmospheric Administration's (NOAA) quality metrics. This network gathers data every five minutes and ports this data wirelessly every 15 minutes back to a database within the State Climatology Office at WKU. Currently there are approximately 30 stations up and running from far western Kentucky to the easternmost part of the Commonwealth. A factor that is slowing the deployment of these stations, funded through an earmark obtained by Senator Mitch McConnell, is the need for fences to protect these sites from vandalism. The directors of the climate center are trying to get buy-in from local communities and this is an expense they may be able to afford. Some communities cannot afford the \$2,000 needed for each fence, especially in these economic times.

Given the Governor's recent commitment to the use of wind energy in Kentucky it would seem prudent to monitor where the wind is most constant and strongest. The Mesonet can provide this data over a long period of time. This data is invaluable for those interested in seeing where the best place to locate windmills and other devices that collect wind energy. Therefore, the Mesonet is requesting the \$2,000 for each fence on the remaining 70 sites it will deploy the remaining Mesonet stations.

Project Description (General Goals & Implementation Strategies):

Deploy 70 more Mesonet real-time weather stations and build 70 protective fences around these stations to provide the density to determine wind speeds and directions for locations throughout

the state in order to determine the most plausible areas to invest in wind energy technology deployment..

Project Team (Project Manager(s), Content Experts, Instructional Designers, etc.):

Dr. Stuart Foster (state climatologist), Dr. Rezaul Mahmood (Assistant Director of the Mesonet project), NWS, ADD districts, NOAA, public universities in Kentucky.

Project Budget & Amount of Economic Stimulus Funds Requested:

Build out of the 100 Mesonet weather stations: Federal sources	\$2,500,000
Stimulus Package: Fence the remaining 70 stations to be deployed	\$ 140,000